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Recording Data Labour With Documentation Midwifery Based On Word Electric Browser (WEB)

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Abstract

Introduction: Midwifery documentation is a proof of recording and reporting possessed by midwives in carrying out records in documenting care provided.

Material and Methods: The research method used was the comparative study with the comparative descriptive design. The total subjects of 30 inpartu mothers were chosen using the purposive sampling technique. The subjects were divided into two groups: 15 of the mothers used the conventional midwifery documentation and 15 of them used the WEB-based. The data were analyzed using the univariate analysis in order to look at the median value, and the bivariate analysis with Mann-Whitney test.

Results: The study results indicated the the highest frequency was found in the WEB-based partograph, namely he filling speed was 26 (86.7%), the highest frequency of partograph filling truth was that of the WEB-based partograph

= 25 (83.3%), while the highest Relevance of the data frequency was found in the WEB-based partograph with the data Relevance = 27 (90%). The result of the statistical test had the p value of 0.000, 0.000, and 0.000 ($\alpha=0.05$) meaning there was a difference of the WEB-based midwifery documentation compared to the conventional midwifery documentation

Conclusion: Thus it can be concluded that web-based midwifery documentation is more effective than conventional midwifery documentation. There are differences in the aspects of ease, speed, security and relevance of data to recording labor history data so that it needs to be applied in documenting midwifery care

Keywords: WEB-based midwifery documentation, conventional

1. Introduction

Partograph is a tool to monitor labor delivery, assess and manage labor, detect problems early and complicate labor, and record and report on their labor data. In connection with patient referral and documentation of partograph, complete and systematic recorded data are needed starting from the first stage of labor to the fourth stage in a data storage system in computer. Data Storage System used is the data storage system My SQL (Structured Query Language) as an RDBMS (Relational Database Management System) which is distributed free under the GPL (General Public License) license which can be used in terms of data storage, data and information management. (Baillie, Chadwick, Mann, & Brooke-Read, 2013; Kitila, Gmariam, Molla, & Nemera, 2014; Asibong et al., 2014; Okokon, Oku, Agan, Asibong, Essien, & Monjok, 2014; Anita, 2016; Andrianto, 2017; Balikuddembe,

Tumwesigye, Wakholi, & Tylleskär, 2017; Bedwell, Levin, Pett, & Lavender, 2017; Erawantini et al., 2017; Mandiwa & Zamawe, 2017; Fatusi, Makinde, Adeyemi, Orji, & Onwudiegwu, 2008; Nugroho, Fitriasi, & Widada, 2015; Ramdhani, Isnanto, & Windasari, 2015; Sovia & Febio, 2011; Sundari, 2016; Widyarningsih & Astutingsih, 2016).

The study obtained a total of 1070 partograph reviewed, 58.6% of the partograph had no record of maternal blood pressure, 65.3% had no documentation of temperature, 25.4% Molding was not recorded, 14.9% of fetal heart rate was not recorded and 12.0% of the decrease in fetal head is not recorded so that there are still many shortcomings in systematic recording and documentation (Balikuddembe et al., 2017; Mandiwa & Zamawe, 2017; Nurmiyati, 2011). According to WHO, the use of partograph will reduce long labor 6.4% to 3.4% of cases of Caesarea 44% to 21%. At present partograph recording and reporting has not been implemented properly as a result of abnormalities and complications that occur in the labor process often not detected so that it slows in clinical decision making. During this time reporting and documentation by midwives was based on recording in partograph on paper, however, based on several studies said that there were still many midwives who did not complete the data in partograph properly and systematically, therefore a recording system, faster reporting and documenting partograph in a computer and web-based data storage to facilitate the work of midwives in storing and re-accessing current and past labor history so as to prevent partograph file accumulation (Andrea, Dodd, 2014; Fahdhy & Chongsuvivatwong, 2005; Yisma, Dessalegn, Astatkie, & Fesseha, 2013a, 2013b; Baillie et al., 2013; Gans-Lartey, O'Brien, Gyekye, & Schopflocher, 2013; Ollerhead and Osrin, 2014; Aliona Masika, Peter Katongole, & Govule, 2015; JNPK-KR, 2012; Bailey, Wilson, & Yoong, 2015; Opoku & Nguah, 2015; Fatouh, 2015; Vidyashri & Nagarathna, 2015; Nugroho, Fitriasi, & Widada, 2015; Byukusenge et al., 2016; Kwast, 1994; Yisma et al., 2013a; Opoku & Nguah, 2015; Sinaga, 2016; Susilowati & Sulistyaningsih, 2011; Tayade & Jadhao, 2012; WHO, 2011; 2014). Based on the description above, the author was motivated to develop a web-based partograph midwifery documentation database research system. This is intended to streamline the process of recording, reporting and documenting partograph in aspects of speed, convenience, security, and convenience by using the Subjective, Objective, Analysis and Management (SOAP) methods. And in accessing again and seeing the recording of labor history and actions taken by the midwife so that it can accelerate clinical decisions, plan actions taken and streamline reporting, documentation in midwifery and prevent the accumulation of partograph files (Bhatt, Kar, Shashank, & Somarajan, 2004; Chaturvedi, S. et al. 2015; Erawantini, F. et al. 2017; Hadi et al., 2017; Hasan, Hossain, Arafat, Khan, Ahmed, & Shabnam, 2017; Underwood, Sterling, & Bennett, 2012; Schweers, Khalid, Underwood, Bishnoi, & Chhugani, 2016; Jennifer, 2012; Souza et al., 2015; Lavender, Hart, & Smyth, 2013; Mathibe-Neke, Lebeko, & Motupa, 2013; Kitila et al., 2014; Kamath, Nagarathna and Sharanya, 2015; Mandiwa and Zamawe, 2017; Lew & Ghassemzadeh, 2018; Nursing and Midwifery Council 2010a; 2010b; Sama, C. B. et al. 2017; Seo, J.-H. et al. 2016; Sinha, S. Shrivastava, & S. Shrivastava, 2016; Sudarti, Fuziah. 2011; Varney, 2008)

2. Materials and Methods

2.1 Design of the Study and Sample Population

The research design used was quasy experiment using a treatment group on web-based partograph midwifery documentation and control groups in conventional partograph obstetric documentation. This research was conducted at Bara-Barayya Health Center, Antang Public Health Center and Makassar City Health Service from November 2018 to January 2019. The research tool here is a hardware and software component that is used as a tool in supporting the research carried out, this tool will be used as a data processing tool and the making of the system to be designed. The research method used was the comparative study with the comparative descriptive design. The total subjects of 30 mothers in labor were chosen using the purposive sampling technique. The subjects were divided into two groups: 15 of the mothers used the conventional midwifery documentation and 15 of them used the WEB-based midwifery documentation. The data were analyzed using the univariate analysis in order to look at the median value and the bivariate analysis with Mann-Whitney test. Sampling from the study population was carried out by purposive sampling, where the population that met the inclusion criteria was included as sample members. The number of subjects was 30 patient data, 30 childbirth patients were documented using conventional partograph midwifery documentation and web-based partograph midwifery documentation. Samples were divided into 2 groups of data, 15 patient data filled using conventional partograph (manual) and 15 patient data filled using computer-based partograph.

Furthermore, 30 patient data will be filled by 9 midwives in the maternity room of Antang Perumnas Public Health Center, 8 midwives in the delivery room of Bara-Baraya Makassar Public Health Center and 1 Midwife at the Makassar City Health Office will see the partograph documentation as data reporting, 17 of these midwives will

fill in 30 patient data using conventional partograph midwifery documentation (manual) and patient data is filled using web-based partograph midwifery documentation. Midwives of Public Health Center who were used as subjects were categorized by age, length of work, training that had been attended. The results of the filling will be assessed using an observation sheet. The primary data obtained directly on the data source is when conducting interviews with midwives and delivery mothers, making observations on filling partograph documentation carried out by midwives on the progress of labor, care provided and results obtained.

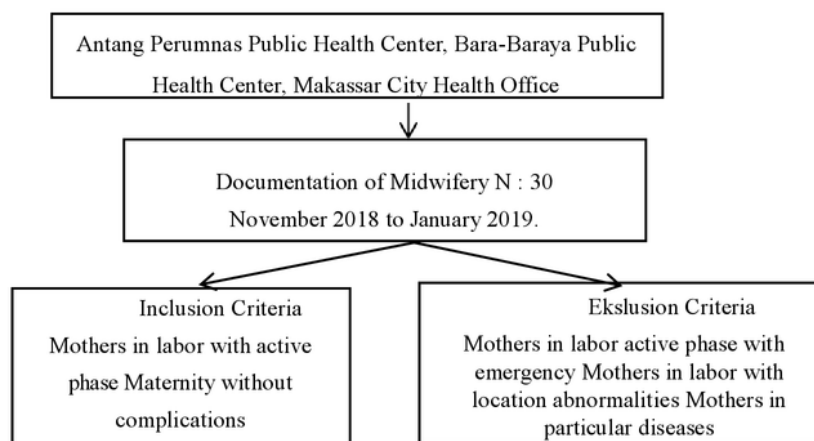


Figure 1. The Flowchart of the Study

2.2 Data Collection

The primary data obtained directly on the data source is when observing the actions taken by the midwife and the results recorded, namely at the Antang Perumnas Health Center, Makassar Bara-Barayya Health Center and Makassar City Health Office. Secondary data obtained indirectly to support writing in this study through documents or records of medical records of mothers who have given birth at the research site. The total subjects of 30 inpartu mothers were chosen using the purposive sampling technique. The subjects were divided into two groups: 15 of the mothers used the conventional midwifery documentation and 15 of them used the WEB-based midwifery documentation namely at the Antang Perumnas Public Health Center, Makassar Bara-Barayya Public Health Center and Makassar City Health Office.

2.3 Ethical Considerations

This study received ethical clearance from the Research and Ethics Committee of Faculty of Medicine, Hasanuddin University and was registered in 972/14.8.4.5.31/PP36-KOMETIK/2018. And protocol number: UH18100691.

2.4 Data Management and Analysis

Descriptive analyses were presented as mean $\pm$ standard deviation and frequencies for categorical variables. Bivariate analyses were analyzed and processed using independent t-test in pairs, Mann-Whitney to determine the differences between all groups at 5% level of significance. Spearman's correlation was used to determine further correlations. Data were analyzed using the Statistical Package for Social Science (SPSS) version 24 for Windows.

3. Results

Sampling from the study population was carried out by purposive sampling, where the population that met the inclusion criteria was included as sample members. The number of subjects was 30 patient data, 30 deliveries were documented using conventional partograph midwifery documentation and web-based partograph midwifery documentation. Samples are divided into 2 groups of data, 15 patient data filled using conventional partograph (manual) and 15 patient data filled using computer-based partograph.

3.1 Univariate Analysis

Midwifery Documentation Comparison From Time Speed Aspects, Truths Charging, Data Security and Data Relevance Midwifery Documentation Website-Based Partographs

Table 1. Characteristics of filling in website system partograph midwifery documentation and conventional partograph midwifery documentation from aspects of ease of filling, time speed, data security, data relevance

Characteristics	Midwifery Documentation	
	Website Based	Conventional
	F %	F %
Time Speed		
Hurry up	26 (86.7)	
Long	4 (13.3)	30 (100)
Truth of Charging		
Right	25 (83.3)	9 (30)
Not exactly	5 (16.7)	21 (70)
Data Relevance		
Right	27 (90)	9 (30)
Not right	3 (10)	21 (70)
Total	100	100

Source : Primary Data, Paired t test.

Table 2. Average scores for filling website-based partograph documentation and conventional partographs from the speed aspect of charging time

Characteristics	Mean	SD	Min – Maks
Charging time			
Website-based partograph documentation	21.7	1	19-24
Conventional Partographical Documentation	31.1	1	29-34

Source: Primary Data, Paired t test.

3.2 Bivariate Analysis

Analysis of differences in website-based partograph midwifery documentation and conventional partograph midwifery documentation against.

Table 3. Differences in midwifery partographies of websites based on websites and midwifery documentation of conventional partographs on recording of childbirth history data

Variable	N	Pvalue	α
Website and conventional time speed aspects are	30	0.000	0.05
Truthful aspects of charging websites and conventional	30	0.000	
Relevance aspects of website data and conventional	30	0.000	

Source: Primary Data, Mann-Whitney Test.

4. Discussion

Table 1 The results obtained the speed of time needed for filling Website-based partograph and conventional partograph, the highest frequency was found on web-based partograph, namely fast charging 26 (86.7%), while the truth of the highest frequency partograph filling was website-based partograph, 25 (83.3%). Data security obtained the highest frequency, namely on website-based partograph, which is 30 (100%), while the highest frequency data relevance is website-based partograph with data relevance of 27 (90%). The results of this study indicate that the use of website-based partograph midwifery documentation will make it easier for midwives to process the recording, reporting and recording of labor history data. Website-based partograph midwifery documentation will minimize errors and have a good level of truth. This is in line with the research conducted by Heather et al., 2012, Heather et al., 2014 which found that the use of electronic partograph was more effective and efficient with the use of hardware and software as a documentation and recording of labor history that could be used as a tool to train labor health about how to use the correct partograph with limited human resources so that it has an impact on the completeness of partograph filling, reducing the error rate (Qureshi, Sekadde-Kigundu, & Mutiso, 2010; Pirie, 2011; Ontario, 2013; Muslihatur et al., 2013; Ollerhead & Osrin, 2014; Sharma, Deka, & Das, 2015).

Table 2 gaining from the speed of filling the website-based partograph midwifery documentation and conventional midwifery documentation, the average time required for filling in website-based partograph midwifery documentation was 21.7 minutes, with a standard deviation of ± 1 second, while documentation of conventional partograph midwifery time needed to fill more that is 31.1 minutes with a standard deviation of ± 1 second.

The results of research conducted by Yulianti et al. (2018) got the use of electronic partograms in recording and reporting partograph documentation with incoming data speeds of 82% with an error rate of 18%, in the process of recording and reporting the time used for charging is relatively shorter 8.6 hours, so it can be concluded that the use of electronic partograms allows data to enter faster with a lower error rate than conventional partograms

Table 3 shows the analysis of data using Test, obtaining a p value of 0.000 (<0.05) means that there are differences in website-based partograph midwifery documentation and conventional partograph midwifery documentation on recording delivery history data from aspects of filling filling truth, data security and data relevance (Sugiyono, 2014).

The statistical test results require an average time of 21.7 minutes, ease of filling is also seen in the correct level of charging that is true 83.3%. The ease of filling will have an effect on the time needed to be shorter, the human resources needed are more simple and the quality of midwifery services is more optimal. This is in accordance with the research conducted stating that for facilitation aspects in the process of documenting midwifery and care provided, it gives information to officers on what has been recorded so that it makes it easier in the process of managing subsequent actions (Lavender, Hart and Smyth, 2013; Fatouh & Ramadan, 2015; Ontario, C. of M. of 2013; Toemandoek, Wagey, & Loho, 2015).

5. Conclusion

Website-based partograph midwifery documentation is better than conventional midwifery documentation seen from the aspect of a short time velocity of 21.7 minutes using web-based partograph midwifery documentation and obtaining a 31.1 minute filling time speed in using conventional partograph midwifery documentation, the correct aspect of filling with columns filled with complete, systematic and appropriate, and relevant data relevance because it is stored in digital form. A web-based partograph midwifery documentation database effectively re-accesses labor history records and actions that have been given.

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Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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